DEM SERIES DIN-RAIL ENERGY METER

Introduction

The DEM series is a high-performance DIN-rail energy meter designed for residential energy monitoring and smart energy projects. Equipped with Modbus-RTU and pulse output communication, the series also supports advanced wireless connectivity, including WiFi, 4G, LoRa, and IoT protocols, enabling seamless integration with modern data acquisition and energy management systems.

A wide range of sub-models and expansion modules offers flexible configuration options. Combining precision metering with ease of integration, the DEM series delivers a cost-effective, reliable solution for power and energy measurement. The intuitive LCD interface provides clear local readings and simplifies installation and setup.

Main Features

- Wide-range power supply: 85–265VAC/DC;
- Compact 35mm DIN-rail mounting for seamless integration;
- High-precision measurement with 0.5s sampling rate;
- Large backlit LCD for clear, intuitive display;
- RS485 communication supporting Modbus-RTU protocol;
- Advanced wireless connectivity: optional WiFi, 4G, LoRa, IoT...;
- Direct current input up to 80A, starting from 0.04A;
- Built-in energy pulse output and configurable alarm output;
- Compatible with both 50Hz and 60Hz electrical systems;
- Direct voltage input 10–400VAC, optional connection via voltage transformers;
- Tamper-proof design certified for revenue-grade applications;

Measurement Function

Model	DEM-2M1D	DEM-3M1C	DEM-4M1D	DEM-7M3D	DEM-4MC	DEM-6MC
Parameters						
Basic para. (1)	●	●	●	●	●	●
4-quad. energy	●	●	●	●	●	●
Built-in CT(80A)	●	-	●	●	-	-
External CT(5A)	-	●	-	-	●	●
Harmonic distortion	-	-	-	○	●	●
Individual harmonic	-	-	-	2-31st	2-31st	2-63rd
Time of use (TOU)	-	-	○	○	○	○
Max demands	-	-	○	○	○	○
SOE record	-	-	-	○	-	○
Curr./volt unbalance	-	-	-	○	○	○
Curr./volt deviation	-	-	-	○	○	○
I/O module						
DI/DO	-	-	-	○	○	●
PO (Pulse output)	●	●	●	●	●	●
Communication						
RS485 modbus	●	●	●	●	●	●
Remote control	-	-	○	○	○	○
Wireless function (WiFi, 4G, LoRa, IoT...)	-	-	○	○	○	●

●With this function ○Optional function -Without this function

(1) Basic parameters: Voltage, Current, Frequency, Total power factor, Active power, Reactive power.

Ordering Information

DEM- 1 2 3

- 1 — Access method
- 2 — Phase number
- 3 — Module number

Num.	Code	Description
1	2M	2 Modules width Din-rail
	3M	3 Modules width Din-rail
	4M	4 Modules width Din-rail
	6M	6 Modules width Din-rail
	7M	7 Modules width Din-rail
2	Blank	Both Single-phase and Three-phases
	1	Single-phase
	3	Three-phases
3	D	Direct access
	C	Use external CT

Technical Characteristics

Model	DEM-2M1D	DEM-3M1C	DEM-4M1D	DEM-7M3D	DEM-4MC	DEM-6MC
Basic parameter						
Wiring method	Single-phase,1P2W			1P2W，Three-phases,3P3W/ 3P4W		
Power supply	Self-powered	85-265 VAC/DC	Self-powered	Self-powered	85-265VAC/DC	
Display capacity	9,999,999 KWh	9,999,999 MWh	99,999,999 KWh	99,999,999 KWh	99,999,999 MWh	
Voltage rating	18...250 VAC (L-N)					
Current	0.04-10(80)A	5A or.../1A CTs	0.04-10(80)A	0.04-10(80)A	5A or.../1A CTs	
Elctrical power measurement (IEC 61557-12)						
Current, voltage	0.5s%	0.5s%	0.5s%	0.5s%	0.2%	
Power	0.5%	0.5%	Active: class 1.0 Reactive: class 2.0	0.5%	0.5%	0.2%
Energy accuracy (IEC 62053-21/ 22/ 23)						
Active energy	Class 1.0	Class 0.5s	Class 1.0		Class 0.5	Class 0.5s
Reactive energy	Class 2.0	Class 1.0	Class 2.0		Class 1.0	Class 1.0
Others						
Module width	2	3	4	7	4	6
Weight	130g	170g	230g	310g	250g	300g
Temperature	-25°C to 55°C					
IP rating	IP40 front panel and IP20 casing					
Dielectric strength	2 kV at 50Hz for 1 min					